Abstract

This invention relates to a method and apparatus for detecting a biological molecule associated with enzyme activity in a sample. The invention is applicable to detecting a microorganism associated with an enzyme in a sample such as water, food, soil, or a biological sample. According to a preferred embodiment of the method of the invention, a sample containing an enzyme of interest or a microorganism associated with the enzyme is combined with a suitable substrate, and a fluorescent product of the enzyme-substrate reaction is selectively detected. The fluorescent product is detected with a partitioning element or optical probe/partitioning element of the invention. In one embodiment the partitioning element provides for partitioning of only the fluorescent product molecule into the probe. The invention also provides an automated system for monitoring for biological contamination of water or other samples.